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results of each passage separately, reduced without correction for refraction on the quantity I′.

	½ Diam.	Spot P.		Spot Q.	
	″	″	″	″	″
1st set	972·1	$\Delta\alpha$ +156·1	$\Delta\delta$ +165·3	$\Delta\alpha$ +411·2	$\Delta\delta$ −72·3
2d —	971·9	158·8	164·3	417·0	75·5
3d —	971·9	156·4	164·3	415·4	78·3

"I am not aware that the above sets are better or worse than usual, or that there exists any reason why they may not be taken as a fair sample.

"I think the time required for the whole observation will speak for itself, and I hope that the degree of accuracy attained will induce some other observer to think the method worthy a trial.

"As a last word, I would just point out that there is one objection to the use of cross bars instead of cross wires, which some might otherwise prefer. It not unfrequently happens that a group of spots of some extent lies nearly on the parallel of the sun's centre. In such a case the large space taken up by the crossing of the bars will prevent all the contacts being taken at the same passage, unless the centre be thrown to an objectionable distance from the point of intersection."

On some peculiar Features in the Structure of Lunar Volcanic Craters. By James Nasmyth, Esq.

In pursuing my investigations of the features of the lunar surface, aided by my very convenient 20-inch aperture reflecting telescope, I have been much interested in observing the details of what have hitherto been termed "terraces," namely, certain concentric ridges around the interior walls of the lunar volcanic craters; and as their peculiar features appear to me to throw some additional light on the nature of the action which had caused the formation of those remarkable "ring mountains," and which I take to be in reality the craters of extinct volcanoes, a few remarks on the subject may, perhaps, prove acceptable.

On a careful scrutiny of these concentric ridges above alluded to, I find that they are by no means continuous or regular in respect to height or position, but, on the contrary, are indented and broken, and that in many cases they form but a small segment of the interior wall of the crater; while, in other cases, portions of these "terraces" have slipped down, and that the flat bottom or plateau of the crater at the spot is covered with the *débris* of portions of the interior wall,—in short, that these features are the result of vast "*landslips*," which, when occurring to any great segment of the inner wall of the crater, yield the "terrace-like" appearance, while in a more limited extent they leave a notch or recess in the bank or cliff, and the *débris* seen at the base are the fragments of the landslip, many portions of which may be traced scattered about and projected inwards towards the centre of the

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plateau. When these features are carefully examined with this "landslip" idea present in the mind, the evidences of such being the true cause and nature of their appearance become irresistible; inasmuch as that any one who has seen "landslips," and the fallen-in interior walls of volcanic craters, will be struck with the similarity of the aspect of the features in question.

With respect to the cause and the nature of the action which appears to me to have occasioned the features in question, I consider that the most probable explanation is, that during the most active state of those volcanic craters the matter ejected from the volcano accumulated, and was piled up to such a height on the summit of the great circular wall or crater, as by its crushing-down action, aided by the undermining and softening action of the intensely hot lake of molten lava (then occupying the bottom of the crater), the vast superincumbent mass forming the wall of the crater had, from time to time, and to a greater or less segmental extent, crushed and slid down, and so settled in a more permanent position: when occurring to a great segment, resulting in the "terrace-like" appearance; and when in a more limited extent yielding all the well-known features of a "*landslip*."

It occurs to me, that if any one (having suitable telescopic means) will carefully examine the details of these features, they will not fail to regard these remarks as worthy of consideration, as yielding what appears to me a rational explanation of their nature and origin.

I may state that I consider the era of the active condition of the lunar volcanoes to have gone by ages ago.

Extract of a Letter from M. Otto Struve to the Astronomer Royal, dated January 17, 1854.[*]

"In the last months I have been so much engaged with other things that I could not find leisure to calculate my observations on the parallax of 61 *Cygni*. But Prof. Woldstedt being here on a visit in the month of September, has made a preliminary calculation, which gives

By the distances, the parallax $= +0''\cdot542 \pm 0''\cdot033$

By the positions, $= +0\cdot504 \pm 0\cdot045$

or, in the mean, a parallax greater by nearly one-third than Bessel's value. The proper motion deduced from my observations agrees within one or two hundredths of a second with that deduced from meridian observations. It was a very curious fact that, when first Woldstedt, by application of proper motion, had reduced the measures to one epoch, I was able to point out, by a single view, the epochs of the different maxima and minima, so exactly that the afterward calculated real epochs did in no case differ from my estimate by more than ten days. I do not regard Prof. Woldstedt's

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[*] For a further extract from the same letter, see p. 167.

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